Exhibit 300-1

January 18, 2021

CURRICULUM VITAE
TODD E. PETERSON, PH.D.

PERSONAL:
Contact Information

2910 Oakland Avenue
Nashville, Tennessee 37212
615-305-1711
toddpete91@gmail.com

EDUCATION:

May 1991	**BA, Gustavus Adolphus College, Physics (Summa cum Laude)**
June 1993	**BA, Oxford University, Physics & Philosophy**
August 1994	**MS, Indiana University, Physics**
October 2000	**PhD, Indiana University, Physics** Dissertation Title: *Development of a tagged neutron facility for absolute neutron scattering cross section measurements* Mentor: Steve Vigdor, Ph.D.
October 2000 – June 2003	**Postdoc, University of Arizona, Biomedical Imaging** Mentor: Harrison H. Barrett, Ph.D.

ACADEMIC APPOINTMENTS:

Faculty:

Associate Professor, Radiology & Radiological Sciences, Vanderbilt University, 2012-present
Assistant Professor, Radiology & Radiological Sciences, Vanderbilt University, 2003-2011
Director of Radiochemistry, Vanderbilt University Institute of Imaging Science, 2019-present
Director of Nuclear Imaging, Vanderbilt University Institute of Imaging Science, 2003-present
Associate Professor, Physics & Astronomy, Vanderbilt University, 2012-present
Assistant Professor, Physics & Astronomy, Vanderbilt University, 2003-2011
Adjunct Professor, College of Optical Sciences, University of Arizona, 2003-present
Associate Professor, Program in Chemical & Physical Biology, Vanderbilt University, 2012-present
Assistant Professor, Program in Chemical & Physical Biology, Vanderbilt University 2008-2011

Administrative:
Faculty Director, Office of Honor Scholarships, Vanderbilt University, 2010-2017
Oversee all functions and staff of office supporting students pursuing competitive national scholarships and fellowships (Rhodes, Marshall, Goldwater, Truman, Fulbright, etc.)

Post-graduate:

Postdoctoral Research Associate, Department of Radiology, University of Arizona, 10/2000-06/2003
Associate Investigator, Arizona Cancer Center, University of Arizona, 12/2002-06/2003

Graduate:

Graduate Research Assistant, Indiana University Cyclotron Facility, 08/1993-09/2000

PROFESSIONAL ORGANIZATIONS:

1. Society of Nuclear Medicine and Molecular Imaging, Center for Molecular Imaging Innovation & Translation (formerly Molecular Imaging Center of Excellence), Board of Directors positions served:
   Immediate Past President, 07/01/14-06/30/2016
   President, 07/01/12-06/30/14
   Vice President, 07/01/10-06/30/12
   Secretary/Treasurer, 07/01/08-06/30/10
   Board Member, 07/01/06-06/30/07
   Board Liaison, 07/01/17-present
2. Institute of Electrical and Electronics Engineers, 2001-present
   Elected member, Nuclear Medical and Imaging Sciences Council of the IEEE Nuclear and Plasma Sciences Society, 01/01/05-12/31/07
   Senior Member, 2018
3. Society of Nuclear Medicine and Molecular Imaging (SNMMI), 2006-present
   Member (non-voting), Board of Directors, 07/01/14-present
4. Sigma Xi, 1990-present
5. American Physical Society, 1994-present

PROFESSIONAL ACTIVITIES:

University

1. Director of Nuclear Imaging, Vanderbilt University Institute of Imaging Science, 2003-present
2. Vice Chair, Annual Research Retreat Organizing Committee, Vanderbilt University Institute of Imaging Science, 2005
3. Chair, Annual Research Retreat Organizing Committee, Vanderbilt University Institute of Imaging Science, 2006
4. Member, Conference Organizing Committee, Frontiers of Biomedical Imaging Science, 2007, 2009, 2011, 2013, 2015, 2017
5. Member, Executive Steering Committee, Vanderbilt In Vivo Cellular & Molecular Imaging Center, 2009-2013
6. Member, Radiation Safety Committee, 2009-present
7. Member, Chemical and Physical Biology Admissions Committee, 2011-2012
8. Member, Quantitative and Chemical Biology Admissions Committee, 2012-2019
9. Co-creator and co-chair, Radiology Basic Scientist Faculty Mentoring Program, 2013-present
10. Member, Faculty Tracks and Promotions Task Force, Radiology & Radiological Sciences, 2014
11. Co-chair, Publication Costs Task Force, Radiology & Radiological Sciences, 2015-2017

12. Director, Radiochemistry Core, 2019-present
13. Director, Animal and Human Imaging Shared Resource, Vanderbilt-Ingram Cancer Center, 2020-present
14. Director, Preclinical Imaging Subcore, Vanderbilt Digestive Disease Resource Center, 2020-present

Extramural

1. Member, CTI Concorde microPET User Advisory Board, 2004-2005
2. Member, Conference Program Committee of the IEEE Medical Imaging Conference, 2004-2020
3. Member, Communications/Web Site Task Force, Molecular Imaging Center of Excellence, SNM, 2006-2010
4. Member, Editorial Board, Molecular Imaging Center of Excellence, SNM, 2006-2010
5. Member, Molecular Imaging Clinical Translation Advisory Committee, SNM, 2006
6. ORAU-ORNL Spallation Neutron Source Biomedical Imaging Research Steering Committee, 2006
7. Session Co-Chair (MIC Poster 3) and member of the MIC Student Paper Awards committee, IEEE Nuclear Science Symposium and Medical Imaging Conference, November 2006
8. Abstract Reviewer, Society of Nuclear Medicine Annual Meeting, 2008-2009
9. Chair, Membership & Innovation Task Force, Molecular Imaging Center of Excellence, SNM, 2009-2013
10. Co-organizer and Moderator, Getting Started in Preclinical Imaging, SNM Annual Meeting, June 2009
11. Co-Moderator, Preclinical Session, SNM Annual Meeting, June 2009
12. Moderator, Young Investigator Award session, Frontiers of Biomedical Imaging Science, 2009
13. Member, Education Task Force, Molecular Imaging Center of Excellence, SNM, 2009-2010
14. Session Co-Chair, Quantitative Imaging Techniques, IEEE Nuclear Science Symposium and Medical Imaging Conference, October 2009
15. Member, SNM Membership Committee, 2009-present
16. Member, SNM Committee on Councils and Centers, 2010-2014
17. Judge, Molecular Imaging Young Investigator Award, SNM Annual Meeting, 2011, 2012
18. Search Committee Member, Editor-in-chief for journal *Molecular Imaging*, 2011
19. Member, Molecular Imaging Working Group, SNM Nuclear Medicine and Molecular Imaging 2020 Task Force, 2011
20. Moderator, Molecular Imaging session, Frontiers of Biomedical Imaging Science, 2011
21. Member (elected), SNM Committee on Nominations, 2011-2012
22. Member, SNM Committee on Publications, 2011-present
23. Editorial Consultant, Journal of Nuclear Medicine, 2012-2016
24. Panel Member, Independent Review of Low-Intrusion Techniques Project for the Department of Energy, Pacific Northwest National Laboratory, January 2012
25. Abstract Reviewer, World Molecular Imaging Congress, 2013-2015, 2018
26. Moderator, CMIIT Young Investigator Award Symposium, SNMMI Annual Meeting, June 2013
27. Moderator, RPSC/CMIIT Basic Science Summary Session, SNMMI Annual Meeting, June 2013
28. Session Chair, Molecular Imaging: Utilizing It as an Effective Drug Development Tool, DIA 2013 49th Annual Meeting: Advancing Therapeutic Innovation and Regulatory Science, June 2013
29. Moderator, Young Investigator Award Session, Frontiers of Biomedical Imaging Science, July 2013
30. Moderator, CMIIT Young Investigator Award Symposium, SNMMI Annual Meeting, June 2014
31. Moderator, RPSC/CMIIT Basic Science Summary Session, SNMMI Annual Meeting, June 2014
32. Moderator, Small Animal and Region Specific-Imaging Session, SNMMI Annual Meeting, June 2014
33. Member, Program Committee for SNMMI/WMIS Translational Molecular Imaging Workshop, 2014-2015
34. Chair, SNMMI Publications Committee, 2014-present
35. Member, Organizing Committee, Second Mini-Workshop on Astro-Materials, 2014

36. Moderator, RPSC/CMIIT Basic Science Summary Session, SNMMI Annual Meeting, June 2015
37. Member, Awards Committee, SNMMI, 2016-present
38. Member, Board of Directors, PET Center of Excellence, SNMMI, 2017-present
39. Co-Chair, Organizing committee for the 2018 AACR-SNMMI Joint Conference on State-of-the-Art Molecular Imaging in Cancer Biology and Therapy, 2017-2018
40. Editorial Board, Molecular Imaging, 2017-present
41. Category Chair, Instrumentation/Computation, World Molecular Imaging Congress, 2017
42. Session Co-Chair and Judge, Student Paper Competition, IEEE Nuclear Science Symposium & Medical Imaging Conference, October 2017
43. Session Co-Chair (MIC Poster M-07) and member of the MIC Student Poster Awards committee, IEEE Nuclear Science Symposium and Medical Imaging Conference, November 2018

Grant Reviewer:

1. Engineering and Physical Sciences Research Council, United Kingdom, 2005
2. Canada Foundation for Innovation - Leaders Opportunity Fund, 2008
3. Technology Fund STW, Dutch Organization for Scientific Research, 2009
4. NIH Study Section: Biomedical Imaging Technology (BMIT), *Ad hoc* member 6/2009, write-in reviewer 10/2009, 02/2010
5. U.S. Department of Energy Radionuclide Instrumentation Research Review Panel, 2010
6. U.S. Department of Energy Phase I & II SBIR/STTR, 2011
7. NIH Study Section: Small Business Medical Imaging (SBIB-T), 10/2012, 6/2013, 10/2013, 6/2014, 10/2014
8. Natural Sciences and Engineering Research Council of Canada (NSERC) Discovery Grant, 2013, 2014, 2016, 2018
9. Hercules Foundation, Belgium, 2013
10. Dutch National Roadmap for Large-Scale Research Facilities, Dutch Research Council (NWO), 2013
11. NIH Study Section: Biomedical Imaging Technology (BMIT-A), 10/2014, 2/2015, 6/2015
12. Brain Canada, Canada Brain Research Fund, 2014
13. Cancer Research UK, 2015, 2017
14. Brain Canada, Platform Support Grant, Chair of LOI Review Panel, 3/2015
15. Charter member, NIH Study Section: Biomedical Imaging Technology (BMIT-A)/Imaging Technology Development (ITD) 7/2015-6/2019
16. Technology Foundation STW, Netherlands Organisation for Scientific Research (NWO), 2015, 2018
17. University of Wisconsin-Milwaukee Research Growth Initiative, 2017
18. Innovative Research Incentives Scheme – Veni, Netherlands Organisation for Scientific Research (NWO), 2018
19. NIH Study Section: ZRG1 SBIB-Q 57 (Academic-Industrial Partnerships), 10/2020

Journal Reviewer:

1. *IEEE Transactions on Nuclear Science*
2. *IEEE Transactions on Medical Imaging*
3. *IEEE Sensors Journal*
4. *Journal of Nuclear Medicine*
5. *Medical Physics*
6. *Molecular Imaging*
7. *Molecular Imaging & Biology*
8. *Nuclear Instruments & Methods A*
9. *Physics in Medicine and Biology*

10. *Nuclear Medicine and Biology*
11. *Annals of Nuclear Medicine*
12. *Molecular Diagnosis & Therapy*
13. *European Journal of Nuclear Medicine & Molecular Imaging*
14. *Review of Scientific Instruments*
15. *Biomedical Physics & Engineering Express*
16. *IEEE Transactions on Radiation & Plasma Medical Sciences*
17. *Scientific Reports*

Awards & Recognitions:

Undergraduate:

Phi Beta Kappa
Sigma Xi
Summa cum Laude
Rhodes Scholarship

Graduate:

McCormick Science Grant, Indiana University Graduate School, 1997
Outstanding Graduate Student in Experimental Physics, Physics Department, Indiana University, 1999

Professional:

Career Award at the Scientific Interface, Burroughs-Wellcome Fund, 2002
Top Basic Science Abstract, Annual Conference of the Academy of Molecular Imaging, 2005
Sylvia Sorkin Greenfield Award for the best paper published in *Medical Physics* in 2006 (co-author)
Sesquicentennial Award, Gustavus Adolphus College, 2013
1 of 150 recipients in honor of the college's 150th anniversary to recognize individuals who have made a significant difference in the life of the college.
Fellowship, Research Stays for Overseas Academics, DAAD (German Academic Exchange Service), University of Siegen, Germany, 2018
Fellow, American Institute for Medical and Biological Engineering (AIMBE), 2020
Fellow, Society of Nuclear Medicine and Molecular Imaging, 2020

OTHER SIGNIFICANT ACTIVITIES:

Rhodes Scholarship Selection Committee:	Kentucky	1994-1996
	South Dakota	1997-1999
	Indiana	2001-2002
	Texas	2004
	District VII	2005-2007, 2010
	District XII	2020

Academic Programs and New Initiatives Task Force, Commission Gustavus 150,
Gustavus Adolphus College, St. Peter, MN 2008-2009

tnAchieves Mentor – Act as mentor to 4 high school students participating in the Tennessee Promise scholarship program, which provides tuition-free enrollment in a Tennessee community college
2016, 2017

TEACHING ACTIVITIES:

Graduate Student at Indiana University

1. General Physics II (P202), Laboratory Instructor, Fall 1996
2. General Physics II (P202), Discussion Leader, Spring 1997
3. Honors Physics I (P221), Course Assistant, Fall 1999

Faculty at Vanderbilt University

Graduate Courses:

1. Physics of Medical Imaging (PHYS228) Fall 2006, Fall 2008, Fall 2009
2. Imaging with Ionizing Radiation (BME395B) Spring 2008
3. Guest Lecture: "Pinhole SPECT", Imaging with Ionizing Radiation (BME395A) March 14, 2005.
4. Guest Lecture: "PET Physics", Physics of Medical Imaging (PHYS228) Sep. 23, 2005.
5. Guest Lectures: Introduction to Chemical & Physical Biology (CPBP306) Nov. 26-30, 2012, Nov. 4-8, 2013, Nov. 19-Dec. 1, 2014.
6. Guest Lectures: Introductions to Chemical & Physical Biology (CPBP8306) Nov. 27-Dec. 4, 2017.
7. Co-Instructor, Foundations of Biomedical Imaging (BME 8900-01) Spring 2020, (BME 8901-01) Spring 2021

Undergraduate Courses:

1. Guest Lecture: "Quantitative SPECT and PET Imaging", Quantitative and Functional Imaging (BME290B-1) Dec. 1, 2003.
2. Guest Lecture: "A Brief History of and Introduction to Nuclear Medicine", Applications of Discoveries in Physics (HONS182-13) Sep. 14, 2004.
3. Guest Lecture: "A Brief History of and Introduction to Nuclear Medicine", Applications of Discoveries in Physics (HONS182-13) Sep. 20, 2005.
4. Guest Lecture: "A Brief History of and Introduction to Nuclear Medicine", Applications of Discoveries in Physics (HONS182-13) Sep. 14, 2006.
5. Guest Lecture: "Nuclear Cardiology", Systems Physiology (BME251-2) November 7, 2006.
6. Making Connections: Leadership & Scholarship, Curriculum & Career (EDUC1690.01), Commons (First-year) Seminar, Spring 2013.
7. Making Connections: Leadership & Scholarship, Curriculum & Career (EDUC1690.03), Commons Seminar, Spring 2014.
8. Guest Lecture: "Preclinical SPECT with Semiconductor Detectors", Fundamentals of Medical Imaging (BME258) February 20, 2014.
9. Making Connections: Leadership & Scholarship, Curriculum & Career (EDUC1690.01), Commons Seminar, Spring 2015.
10. Making Connections: Leadership & Scholarship, Curriculum & Career (EDUC-1001-01), Commons Seminar, Spring 2016.

11. Vanderbilt Visions (VV-0700), Semester-long first-year orientation curriculum, Fall 2016.
12. Guest Lecture: "A Bit about PET & SPECT", Foundations of Medical Imaging (BME4400), February 8, 2018.

Professional Society:

1. Short Course Organizer & Instructor, "Medical Imaging Fundamentals", IEEE Nuclear Science Symposium & Medical Imaging Conference, San Juan, Puerto Rico, 2005
2. Short Course Organizer & Instructor, "Medical Imaging Fundamentals", IEEE Nuclear Science Symposium & Medical Imaging Conference, Orlando, Florida, 2009
3. Speaker, "Current and Future Potential in Detector Technologies", Refresher Course, IEEE Nuclear Science Symposium & Medical Imaging Conference, San Diego, California, 2015
4. Short Course Organizer & Instructor, "Biomedical Imaging Fundamentals", IEEE Nuclear Science Symposium & Medical Imaging Conference, Atlanta, Georgia, 2017
5. Short Course Organizer & Instructor, "Biomedical Imaging Fundamentals", IEEE Nuclear Science Symposium & Medical Imaging Conference, Sydney, Australia, 2018

Research Supervision:

Postdoctoral Trainees:

1. Sepideh Shokouhi, 2005-2011
   SNM Molecular Imaging Postdoctoral Scholar grant award, 2008
   K99/R00 grant recipient, 2011
   Currently: Assistant Professor of Psychiatry, Vanderbilt University Medical Center
2. M. Noor Tantawy, 2006-2009
   Currently: Research Associate Professor of Radiology, Vanderbilt University Medical Center
3. Lindsay Johnson, 2014
   Currently: University of Pennsylvania
4. Desmond Campbell, 2015-2016
   Currently: Center for Science Outreach, Vanderbilt University

Ph.D. Students Supervised:

1. Benjamin McDonald, Ph.D. in Physics, March 2010
   Dissertation Title: "Development of the SiliSPECT Small-animal Imager"
   Currently: Pacific Northwest National Laboratory
2. Lindsay Johnson, Ph.D. in Biomedical Engineering, November 2013
   Dissertation Title: "Development of a Small-Animal SPECT System with a High-Purity Germanium Detector"
   Currently: University of Pennsylvania
3. Desmond Campbell, Ph.D. in Physics, March 2015
   Southern Region Education Board Dissertation Award, 2014
   Dissertation Title: "A High-purity Germanium Imaging System for Limited-angle Nuclear Breast Tomography"
   Currently: Center for Science Outreach, Vanderbilt University
4. Rose Perea, Ph.D. in Physics, September 2019
   NIH F31 Predoctoral Fellowship recipient, 2016
   Dissertation Title: "Improving Position Estimation in Double-Sided Strip High-Purity Germanium HPGe Detectors for Gamma-ray Imaging"

Currently: NRC Postdoctoral Fellow, Naval Research Laboratory

5. Ardelia Clarke, Ph.D. in Physics, November 2020
   Dissertation Title: "Development of a scintillation-based CMOS Quantitative Autoradiography imager for Safeguard Applications"
   Currently: National Renewable Energy Laboratory

Ph.D. Committees:

1. Na Zhang, Ph.D. in Physics, November 2007
2. Heather Whitney, Ph.D. in Physics, January 2009
3. Richard Dortch, Ph.D. in Biomedical Engineering, March 2009
4. Randy Scherer, Ph.D. in Interdisciplinary Materials Science, January 2010
5. Jason Moore, Ph.D. in Physics, March 2011
6. Jack Skinner, Ph.D. in Biomedical Engineering, March 2012
7. Jeff Hammonds, Ph.D. in Physics, June 2013
8. Jennifer Whisenant, Ph.D. in Chemical & Physical Biology, June 2013
9. Ken Lewis, Ph.D. in Physics, July 2013
10. Christopher Jarrett, Ph.D. in Chemical & Physical Biology, October 2014
11. Fazal ur-Rehman, Ph.D. in Physics, University of Manitoba, October 2012 (External Examiner)
12. Matthew Hight, Ph.D. in Interdisciplinary Materials Science, November 2014
13. Benjamin Hardy, Ph.D. candidate in Physics, current
14. Vilma Jallinoja, Ph.D. candidate in Chemical & Physical Biology, current (Chair)

Master's Students:

1. Zheng Fu, M.S. in Electrical and Computer Engineering, Vanderbilt University, 2007
   Currently: Vice President, Bank of America Merrill Lynch
2. Christopher Jarrett, M.E. in Biomedical Engineering, Vanderbilt University, 2008
   Currently: Regulatory Affairs Compliance Specialist, Stryker
3. Desmond Campbell, M.S. in Physics, Fisk University, 2008
   Currently: Center for Science Outreach, Vanderbilt University
4. Lindsay Johnson, M.S. in Biomedical Engineering, 2010
   Currently: Postdoc in Radiology, University of Pennsylvania
5. Oleg Ovchinnikov, M.S. in Physics, Vanderbilt University, 2014
   Currently: Computational Scientist, Ocean Ridge Biosciences
6. John McGrew, M.S. in Physics, Fisk University, 2015
7. Ardelia Clarke, M.S. in Physics, Fisk University, 2016
8. Jarrhett Butler, M.S. in Physics, Fisk University, 2017
9. LaNell Williams, M.S. in Physics, Fisk University, 2017
10. Michelle Gomez, M.S. in Physics, Fisk University, 2020

Undergraduates:

1. Christopher Heath, 2004
2. Mark Fritz, 2006-2007
3. Stacey Tarver, BME 240 (Independent Study), Spring 2007
4. T. Jordan Smith, King College, Summer 2008
5. Jonathan Samuels, BME 3680 (Independent Research), Fall 2017

RESEARCH FUNDING:

Active:

Enabling Multi-Tracer SPECT Studies of the Human Brain
NIH/NIBIB 1 R01 EB026991-01 09/30/18-07/31/21
Role: PI Total Direct: $644,113

Preclinical Proof of Concept Studies for the
Development of PET Tracers
VUMC7343 (GE Healthcare) 07/02/19-12/3/21
Role: PI Total Direct: $552,093

Imaging Activated Macrophages in the Lungs
NIH/NHLBI 1R01 HL131906-01 09/01/16-05/31/21
Role: Co-Investigator (PI Timothy Blackwell, MD) Total Direct: $444,071 (Y3)

The Role of Network Connectivity in Post-surgical
Seizure Recurrence in Temporal Lobe Epilepsy
NIH/NINDS R01 NS110130 09/30/18-06/30/23
Role: Co-Investigator (PI Victoria Morgan, PhD) Total Direct: $346,725 (Y2)

Cancer Center Support Grant
NIH/NCI 5P30 CA068485-25 09/28/04-8/31/21
Role: Co-Investigator (PI Jennifer Pietenpol, PhD) Total Direct: $21,492,989

Molecular and Cellular Basis for Digestive Diseases
NIH/NIDDK 5P30 DK058404-19 06/01/20-5/31/21
Role: Co-Investigator (PI Richard Peek, MD) Total Direct: $1,148,549 (Y19)

Structural, Molecular, and Functional Biomarkers of
Spinal Cord Contusion Injury and Recovery in Rats
W81XWH-20-100648 07/15/20-07/14/23
Role: Co-Investigator (PI Li Min Chen, MD PhD) Total Direct: $494,936

<u>Completed:</u>
VU-PREDICT
NIH/NCI U24 CA220325 09/14/18-08/31/23
Role: Co-Investigator (PI H. Charles Manning, PhD) Total Direct: $419,674 (Y2)

High Light Output Scintillator Camera for SPECT
NIH/NIBIB 1R21 EB018033-023 07/01/14-06/30/18
Role: Co-PI (w/Arnold Burger, PhD, Fisk University) Total Direct: $275,000

Synthetic-Collimator SPECT with Semiconductor Detectors
NIH/NIBIB 1R01 EB013677-05 07/15/11-05/31/17
Role: PI Total Direct: $1,089,068

Germanium Gamma Cameras
NIH/NIBIB 1R44 EB015889-03 03/15/11-04/30/15
Role: Sub-award PI (PI Ethan Hull, PhD) Total Direct: $760,141

(Phase I & II)

Evaluation and Validation of Imaging Biomarkers of Tumor Response to Treatment
NIH/NCI 5R01 CA138599-02 05/01/10-02/28/15
Role: Co-Investigator (PI Thomas Yankeelov, PhD) Total Direct: $1,438,050

Imaging Activated Macrophages in the Lungs
NIH/NHLBI 5R01 HL116358-03 09/25/12-06/30/15
Role: Co-Investigator (PI Timothy Blackwell, MD) Total Direct: $733,000

PET System for Preclinical Research
NIH/NIBIB 1S10 OD016245-01 07/15/13-07/14/14
Role: PI Total Direct: $583,676

Small-Animal SPECT/CT System Based on Position-Sensitive Semiconductor Detectors
Department of Energy 09/15/09-08/31/12
Role: PI Total Direct: $445,878

South-Eastern Center for Imaging Animal Models of Cancer
NIH/NCI 5U24 CA126588-04 05/04/07-02/28/12
Role: Co-Investigator (PI John Gore, PhD) Total Direct: $1,383,969

Vanderbilt In Vivo Cellular and Molecular Imaging Center
NIH/NCI 5P50 CA128323-03 09/22/08-08/31/13
Role: Co-Investigator (PI John Gore, PhD) Total Direct: $4,928,718

Effects of Tumors on the Skeleton
NIH/NCI 5P01 CA040035-22 09/01/06-08/31/11
Role: Co-Investigator (PI Florent Elefteriou, PhD) Total Direct: $4,102,317

New Imaging Agents Targeting VMAT-2
Juvenile Diabetes Research Foundation 09/01/08-08/31/11
Role: Co-Investigator (PI Alvin Powers, MD) Total Direct: $510,602

Molecular Determinants Affecting FLT-PET in Colorectal Cancer
NIH/NCI 1RC1 CA145138-01 09/30/09-08/31/11
Role: Co-Investigator (PI H. Charles Manning, PhD) Total Direct: $649,026

Real-Time Digital Autoradiography System
NIH/NCRR 1S10 RR027962-01 07/29/10-07/28/11
Role: PI Total Direct: $159,900

Biological Basis of Imaging Biomarkers in Colorectal Cancer
NIH/NCI 5R01 CA140628-02 07/17/09-06/30/11
Role: Co-Investigator (PI H. Charles Manning, PhD) Total Direct: $595,411

Whole-Body and Knee-Specific Imaging of Rats After Injection of an I-125-Labeled Antibody
Centocor, Inc. 08/08/08-08/06/10
Role: PI Total Direct: $30,000

Ultrahigh-resolution in vivo Imaging
Career Award at the Scientific Interface 07/01/03-06/30/09
Burroughs Wellcome Fund Total Direct: $538,000
Role: PI
(located at U. of Arizona, 01/01/02-06/30/03)

Sub-millimeter Nuclear Medicine Imaging at Low Energies
NIH/NIBIB 5R21/R33 EB000776-04 07/01/02-06/30/08
Role: PI Total Direct: $634,713
Phased-Innovation Award (located at U. of Arizona, 07/01/02-06/30/03)

Dedicated Small-Animal SPECT System
NIH/NCRR 1S10 RR023784-01 06/01/07-05/31/08
Role: PI Total Direct: $448,900

Pharmacodynamic Assessment of RTK Inhibitors in Cancer
NIH/NCI 5R01 CA112385-04 02/23/05-01/31/10
Role: Co-Investigator (PI Dennis Hallahan, MD) Total Direct: $1,250,000

Ligands for Detection of Alzheimer's Plaque
NIH/NIA 5R43 AG024717-02 07/01/07-04/30/09
Role: Co-Investigator (PI Ronald Baldwin, PhD) Total Direct: $97,574

Phase Contrast Computed Tomography Scanner
NIH/NCI 5R21 CA118551-02 12/27/05-11/30/08
Role: Co-Investigator (PI Edwin Donnelly, MD PhD) Total Direct: $209,000

Indole Glyoxylamide Peripheral Benzodiazepine Radiotracers
NIH/NIMH 5R43 MH0077428-02 06/15/06-08/01/08
Role: Co-Investigator (PI Ronald Baldwin, PhD) Total Direct: $103,667

Kinetic modeling of muscle glucose uptake in mice by 10/01/04-09/30/05
microPET imaging of 2-deoxy-18FDG Total Direct: $40,000
Vanderbilt University Mouse Metabolic Phenotyping Center
Role: PI

PUBLICATIONS & PRESENTATIONS:

Refereed Journal Publications:

1. DeSouza RT, Carlin N, Kim YD, Ottarson J, Phair L, Bowman DR, Gelbke CK, Gong WG, Lynch WG, Pelak RA, Peterson T, Poggi G, Tsang MB, Xu HM, "The MSU Miniball 4 pi Fragment Detection Array", *Nuclear Instruments and Methods* A295, 109 (1990).
2. Betker AC, Cameron JM, Jacobs WW, Keith CD, Nann H, Peterson T, Shao J, Spraker M, Szymanski JJ, Vigdor SE, Warman LK, Pitts WK, "Search for the Production of Pionium Atoms near Threshold", *Physical Review Letters* 77, 3510 (1996).

3. Peterson T, Bilodeau D, Doskow J, Hunt W, Kinashi T, Klyachko A, Jacobs WW, Rinckel T, Vigdor SE, Yoder NR, Zhou Y, "A Self-triggering Silicon Strip Detector System for Coincidence Detection of Low Energy Recoils", *IEEE Transactions on Nuclear Science* 47, 768 (2000).
4. Peterson T, "Impact on the πNN Coupling Constant of the IUCF Measurement with a Tagged Neutron Beam", *Physica Scripta* T87, 22 (2000).
5. Peterson TE, Wilson DW, Barrett HH, "Application of silicon strip detectors to small-animal imaging", *Nuclear Instruments and Methods* A505, 608 (2003).
6. Kastis GA, Furenlid LR, Wilson DW, Peterson TE, Barber HB, Barrett HH, "Compact CT/SPECT Small-Animal Imaging System", *IEEE Transactions on Nuclear Science* 51, 63, (2004).
7. Peterson TE, Vigdor SE, Allgower C, Bergenwall B, Bland LC, Blomgren J, Doskow J, Hossbach T, Jacobs WW, Johansson C, Kinashi T, Klug J, Klyachko AV, Nadel-Turonski P, Nilsson L, Olsson N, Planinic M, Pomp S, Rapaport J, Rinckel T, Stephenson EJ, Tippawan U, Wissink SW, Zhou Y, "Development of a tagged neutron facility at intermediate energies", *Nuclear Instruments and Methods* A527(3), 432 (2004).
8. Sarsour M, Peterson T, Planinic M, Vigdor SE, Allgower C, Bergenwall B, Blomgren J, Hossbach T, Jacobs WW, Johansson C, Klug J, Klyachko AV, Nadel-Turonski P, Nilsson L, Olsson N, Pomp S, Rapaport J, Rinckel T, Stephenson EJ, Tippawan U, Wissink SW, Zhou Y, "Measurement of the Absolute *np* Scattering Differential Cross Section at 194 MeV", *Physical Review Letters* 94, 082303 (2005).
9. Lynch CC, Hikosaka A, Acuff HB, Martin MD, Kawai N, Singh RK, Vargo-Gogola TC, Begtrup JL, Peterson TE, Fingleton B, Shirai T, Matrisian LM, Futakuchi M, "MMP-7 promotes prostate cancer-induced osteolysis via the solubilization of RANKL", *Cancer Cell* 7(5), 485 (2005).
10. Stathopoulos GT, Zhu Z, Everhart MB, Kalomenidis I, Lawson WE, Bilaceroglu S, Peterson TE, Mitchell D, Yull FE, Light RW, Blackwell TS, "Nuclear Factor-κB Affects Tumor Progression in a Mouse Model of Malignant Pleural Effusion", *American Journal of Respiratory Cell and Molecular Biology* 34, 142 (2006).
11. Kim H, Furenlid LR, Crawford MJ, Wilson DW, Barber HB, Peterson TE, Hunter WCJ, Liu Z, Woolfenden JM, Barrett HH, "SemiSPECT: a small-animal SPECT imaging based on eight CZT detector arrays", *Medical Physics* 33(2), 465 (2006). (**Awarded the Sylvia Sorkin Greenfield Award for the best paper in Medical Physics in 2006.**)
12. Stabin MB, Peterson TE, Holburn GE, Emmons MA, "Voxel-based mouse and rat models for internal dose calculations", *Journal of Nuclear Medicine* 47, 655 (2006).
13. Sarsour M, Peterson T, Planinic M, Vigdor SE, Allgower C, Bergenwall B, Blomgren J, Hossbach T, Jacobs WW, Johansson C, Klug J, Klyachko AV, Nadel-Turonski P, Nilsson L, Olsson N, Pomp S, Rapaport J, Rinckel T, Stephenson EJ, Tippawan U, Wissink SW, Zhou Y, "Measurement of the absolute differential cross section for *np* elastic scattering at 194 MeV", *Physical Review* C74, 044003 (2006).
14. Li X, Peterson TE, Gore JC, Dawant BM, "Automatic inter-subject registration of whole body images", *Lecture Notes Computer Science* 4057:18 (2006).
15. Li X, Yankeelov TE, Peterson TE, Gore JC, Dawant BM, "Constrained non-rigid registration for whole body image registration: method and validation", *Proceedings of SPIE* 6512:651202 (2007).
16. McDonald BS, Shokouhi S, Barrett HH, Peterson TE, "Multi-energy, single-isotope imaging using stacked detectors", *Nuclear Instruments and Methods* A579(1), 196 (2007).

17. Li X, Yankeelov TE, Peterson TE, Gore JC, Dawant BM, "Automatic non-rigid registration of whole body CT mice images", *Medical Physics* 35(4), 1507 (2008).
18. Hariri G, Zhang Y, Fu A, Han Z, Brechbiel M, Tantawy MN, Peterson TE, Mernaugh R, Hallahan D. Radiation-Guided P-Selectin Antibody Targeted to Lung Cancer. *Annals of Biomedical Engineering* 36(5):821-830 (2008).
19. Daneshvar H, Nelms J, Muhammad O, Jackson H, Tkach J, Davros W, Peterson T, Vogelbaum MA, Bruchez M, Toms SA. Imaging characteristics of zinc sulfide shell, cadmium selenide core quantum dots. *Nanomedicine* 3(1):21-29 (2008).
20. Manning HC, Merchant NB, Foutch AC, Virostko JM, Wyatt SK, Shah C, McKinley ET, Xie J, Mutic NJ, Washington MK, Lafleur B, Tantawy MN, Peterson TE, Ansari MS, Baldwin RM, Rothenberg ML, Bornhop DJ, Gore JC, Coffey RJ. Molecular imaging of therapeutic response to EGF receptor blockade in colorectal cancer. *Clinical Cancer Research* 2008; 14(22): 7413-7422.
21. Jones CK, Brady AE, Davis AA, Xiang Z, Bubser M, Tantawy MN, Kane AS, Bridges TM, Kennedy JP, Bradley SR, Peterson TE, Ansari MS, Baldwin RM, Kessler RM, Deutch AY, Lah JJ, Levey AI, Lindsley CW, Conn PJ. Novel Selective Allosteric Activator of the M1 Muscarinic Acetylcholine Receptor Regulates Amyloid Processing and Produces Antipsychotic-like Activity in Rats. *Journal of Neuroscience* 2008; 28(41): 10422-33.
22. Shokouhi S, Metzler SD, Wilson DW, Peterson TE. Multi-pinhole collimator design for small-object imaging with SiliSPECT, a high-resolution SPECT. *Physics in Medicine and Biology* 2009;54(2):207-225.
23. Peterson TE, Shokouhi S, Furenlid LR, Wilson DW. Multipinhole SPECT imaging with silicon strip detectors. *IEEE Transactions on Nuclear Science* 2009; 56(3):646-652.
24. Shokouhi S, McDonald BS, Durko HL, Fritz MA, Furenlid LR, Peterson TE. Thick silicon double-sided strip detectors for low-energy small-animal SPECT. *IEEE Transactions on Nuclear Science* 2009;56(3):557-564.
25. Gore JC, Yankeelov TE, Peterson TE, Avison MJ. Molecular imaging without radiopharmaceuticals? *Journal of Nuclear Medicine* 2009;50(6):999.
26. Tantawy MN, Jones CK, Baldwin RM, Ansari MS, Conn PJ, Kessler RM, Peterson TE. [18F]fallypride dopamine D2 receptor studies using delayed microPET scans and a modified Logan plot. *Nuclear Medicine and Biology* 2009; 36(8):931-940.
27. Yankeelov TE, Avison MJ, Damon BM, Manning HC, Peterson TE, Gore JC. Frontiers of Biomedical Imaging Science 2009: workshop report and research opportunities. *Cancer Research* 2009 October 15;69(20):7902.
28. Tantawy MN, Peterson TE. Simplified [18F]FDG Image-Derived Input Function using the Left Ventricle, Liver, and One Venous Blood Sample. *Molecular Imaging* 2010;9(2):76-86.
29. Bruni-Cardoso A, Johnson LC, Vessella RL, Peterson TE, Lynch CC. Osteoclast-Derived Matrix Metalloproteinase-9 Directly Affects angiogenesis in the Prostate Tumor-Bone Microenvironment. *Molecular Cancer Research* 2010;9(4):459-70.
30. Shokouhi S, Wilson DW, Metzler SD, Peterson TE. Evaluation of Image Reconstruction for Mouse Brain Imaging with Synthetic Collimation from Highly Multiplexed SiliSPECT Projections. *Physics in Medicine and Biology* 2010;55(17):5151-68.
31. Johnson LC, Johnson RW, Munoz SA, Mundy GR, Peterson TE, Sterling JA. Longitudinal Live Animal microCT Allows for Quantitative Analysis of Tumor-Induced Bone Destruction. *Bone* 2011;48(1):141-51.

32. Lee HJ, Tantawy MN, Nam KT, Choi I, Peterson TE, Price RR, Khabele D. Evaluation of peritoneal tumor dissemination in a syngeneic mouse model of ovarian cancer using 18F-FDG PET imaging. *International Journal of Gynecological Cancer* 2011;21(1):22-27.
33. Buck JR, McKinley ET, Hight MR, Fu A, Tang D, Smith RA, Tantawy MN, Peterson TE, Colvin D, Ansari MS, Baldwin RM, Zhao P, Guleryuz S, Manning HC. Quantitative, preclinical PET imaging of TSPO expression in glioma using [18F]PBR06. *Journal of Nuclear Medicine* 2011;52:107-114.
34. Sparks EE, Perrien DS, Huppert KA, Peterson TE, Huppert SS. Defects in hepatic Notch signaling result in disruption of the communicating intrahepatic bile duct network in mice. *Disease Models and Mechanisms* 2011;4(3):359-67.
35. Zinn KR, Anderson CJ, Bradbury M, Cutler CS, Peterson TE, Morgan DE, Price JC, Graham MM, Contag CH, Wittstrom K, Norenberg JP. Components of a Curriculum for Molecular Imaging Scientists. *Journal of Nuclear Medicine* 2011;52:650-656.
36. Tantawy MN, Peterson TE, Jones CK, Johnson K, Rook JM, Conn PJ, Baldwin RM, Ansari MS, Kessler RM. Impact of isoflurane anesthesia on D2 receptor occupancy by [18F]fallypride measured by microPET with a modified Logan plot. *Synapse* 2011;65(11):1173-1180.
37. Johnson LC, Campbell DL, Hull EL, Peterson TE. Characterization of a high-purity germanium detector for small-animal SPECT. *Physics in Medicine and Biology* 2011;56:5877-5888.
38. Virostko J, Henske J, Vinet L, Lamprianou S, Dai C, Radhika A, Baldwin RM, Ansari MS, Hefti F, Skovronsky D, Kung HF, Herrera PL, Peterson TE, Meda P, Powers AC. Multimodal Image Co-registration and Inducible Selective Ablation to Evaluate Imaging Ligands. *Proceedings of the National Academy of Sciences* 2011;108(51):207419-24.
39. Tang D, McKinley ET, Hight MR, Fu A, Buck JR, Smith RA, Tantawy MN, Peterson TE, Colvin D, Ansari MS, Nickels M, Manning HC. Quantitative, preclinical imaging of TSPO expression in glioma using *N*,*N*-diethyl-2-(2-(4-(2-(¹⁸F)-fluoroethoxy)phenyl)-5,7-dimethylpyrazolo[1,5-*a*]pyrimidin-3-yl)acetamide. *Journal of Nuclear Medicine* 2012;53(2):287-294.
40. Yankeelov TE, Peterson TE, Abramson RG, Garcia-Izquierdo D, Arlinghaus LR, Li X, Atuegwu NC, Catana C, Manning HC, Fayad ZA, Gore JC. Simultaneous PET-MRI in Oncology: A Solution Looking for a Problem? *Magnetic Resonance Imaging* 2012;30(9):1342-56.
41. Skinner JT, Yankeelov TE, Peterson TE, Does MD. Comparison of DCE-MRI and quantitative radionuclide imaging in a rat glioma model. *Contrast Media & Molecular Imaging* 2012;7(6):494-500.
42. Tantawy MN, Jiang R, Wang F, Takahashi K, Peterson TE, Zemel D, Hao C-M, Fujita H, Harris RC, Quarles CC, Takahashi T. Assessment of renal function in mice with unilateral ureteral obstruction using 99mTc-MAG3 dynamic scintigraphy. *BMC Nephrology* 2012;13:168.
43. Nolting DD, Nickels M, Tantawy MN, Yu JY, Xie J, Peterson TE, Crews BC, Marnett L, Gore JC, Pham W. Convergent synthesis and evaluation of (18)F-labeled azulenic COX2 probes for cancer imaging. *Frontiers in Cancer Imaging and Diagnosis* 2012;2:207.
44. Lee HJ, Luci JJ, Tantawy MN, Lee H, Nam KT, Peterson TE, Price RR. Detecting peritoneal dissemination of ovarian cancer in mice by DWIBS. *Magnetic Resonance Imaging* 2013;31(2):227-34.
45. Whisenant JG, Peterson TE, Fluckiger J, Tantawy MN, Ayers GD, Yankeelov TE. Reproducibility of static and dynamic ¹⁸F-FDG, ¹⁸F-FLT, and ¹⁸F-FMISO microPET studies in a murine model of HER2+ breast cancer. *Molecular Imaging & Biology* 2013;15(1):87-96.
46. Fluckiger JU, Li X, Whisenant JG, Peterson TE, Gore JC, Yankeelov TE. Using dynamic contrast-

enhanced magnetic resonance imaging data to constrain a positron emission tomography kinetic model: theory and simulations. *International Journal of Biomedical Imaging* 2013, Article ID 576470.

47. Wilson GH, Gore JC, Yankeelov TE, Barnes S, Peterson TE, True JM, Shokouhi S, McIntyre JO, Abramson V, Ngyuen T-Q, Mahadevan-Jansen A, Tantawy MN. An approach to breast cancer diagnosis via PET imaging of microcalcifications using 18F-NaF. *Journal of Nuclear Medicine* 2014;55(7):1138-1143.
48. Whisenant JG, McIntyre JO, Peterson TE, Kang H, Sanchez V, Manning HC, Arteaga CL, Yankeelov TE. Utility of [18F]FLT-PET to assess treatment response in trastuzumab-resistant and trastuzumab-sensitive HER2-overexpressing human breast cancer xenografts. *Molecular Imaging & Biology* 2015;17(1):110-128.
49. Johnson LC, Shokouhi S, Peterson TE. Reducing multiplexing artifacts in multi-pinhole SPECT with a stacked silicon-germanium system: a simulation study. *IEEE Transactions on Medical Imaging* 2014;33(12):2342-2351 DOI: 10.1109/TMI.2014.2340251.
50. Campbell DL, Peterson TE. Simulation study comparing high-purity germanium and cadmium zinc telluride detectors for breast imaging. *Physics in Medicine and Biology* 2014;59(22):7059-7079.
51. Perea RS, Parsons AM, Groza M, Caudel D, Nowicki S, Burger A, Stassun KG, Peterson TE. Scintillation properties of $SrI_2(Eu^{2+})$ for high energy astrophysical detectors: Nonproportionality as a function of temperature and at high gamma-ray energies. *Journal of Astronomical Telescopes, Instruments, and Systems* 2014;1(1)016002 DOI: 10.1117/1.JATIS.1.1.016002.
52. Han W, Zaynagetdinov R, Yull, FE, Polosukhin VV, Gleaves LA, Tanjore H, Peterson TE, Manning HC, Prince LS, Blackwell TS. Molecular imaging of folate receptor beta positive macrophages during acute lung inflammation. *American Journal of Respiratory Cell and Molecular Biology* 2015;53(1):50-9.
53. Felix DD, Gore JC, Yankeelov TE, Peterson TE, Barnes S, Whisenant J, Weis J, Shoukouhi S, Virostko J, Nickels M, McIntyre JO, Sanders M, Abramson V, Tantawy MN. Detection of breast cancer microcalcification using 99mTc-MDP SPECT or Osteosense 750EX FMT imaging. *Nuclear Medicine and Biology* 2014; 42(3):269-273 DOI: 10.1016/j.nucmedbio.2014.11.010.
54. Johnson LC, Ovchinnikov O, Shokouhi S, Peterson TE. Development of a Germanium Small-Animal SPECT System. *IEEE Transactions on Nuclear Science* 2015;62(5):2036-2042 DOI: 10.1109/TNS.2015.2448673.
55. Campbell DL, Peterson TE. Molecular Breast Imaging Using Synthetic Projections from High-Purity Germanium Detectors: A Simulation Study. *IEEE Transactions on Radiation and Plasma Medical Sciences* 2017;1(5) DOI:10.1109/TRPMS.2017.2725310.
56. Tantawy MN, Manning HC, Peterson TE, Colvin DC, Gore JC, Lu W, Chen Z, Quarles CC. Translocator Protein Imaging in a Preclinical Prostate Cancer Model. *Molecular Imaging & Biology* 2018;20(2):200-204 DOI: 10.1007/s11307-017-1113-7.
57. Lin A, Kupinski MA, Peterson TE, Shokouhi S, Johnson LC. Task-based Design of a Synthetic-collimator SPECT System Used for Small-animal Imaging. *Medical Physics* 2018;45(7):2952-2963 DOI: 10.1002/mp.12952.
58. Bayerlein R, Fleck I, Khalid W, Peterson TE, Walenta AH. Coincident detection of Cherenkov light from higher energetic electrons using silicon photomultipliers. *Nuclear Instruments and Methods in Physics Research,* A930, 74 (2019) DOI: 10.1016/j.nima.2019.03.049.

59. Bäcker H, Bayerlein R, Fleck I, Peterson TE. Coincident detection of Cherenkov photons from Compton scattered electrons for medical applications. *Nuclear Instruments and Methods in Physics Research,* A958 (2020) DOI: 10.1016/j.nima.2019.162797.

60. Vaught DB, Merkel AR, Lynch CC, Edwards J, Tantawy MN, Hilliard T, Peterson TE, Johnson RW, Sterling JA, Brantley-Sieders D. EphA2 is a clinically relevant target for breast cancer bone metastatic disease. *Journal of Bone and Mineral Research* 2021 (accepted for publication).

61. Bäcker H, Bayerlein R, Binder T, Denker S, Fleck I, Peterson TE. Gamma-ray imaging using coincident detection of Cherenkov photons for medical applications. *IEEE Transaction on Radiation and Plasma Medical Sciences* 2021 (under review).

Invited Review Articles:

1. Peterson TE and Manning HC. Molecular Imaging: FDG-PET and a whole lot more. *Journal of Nuclear Medicine Technology* 2009; 37(3):151.
2. Peterson TE and Furenlid LR. SPECT Detectors: the Anger Camera and beyond. *Physics in Medicine and Biology* 2011; 56:R145-R182. (**6th most downloaded 2011 Physics in Medicine and Biology article.**)
3. Peterson TE, Shokouhi S. Advances in Preclinical SPECT Instrumentation. *Journal of Nuclear Medicine* 2012;53(6):841-4.
4. Weber WA, Czernin J, Anderson CJ, Badawi RD, Barthel H, Bengel F, Bodei L, Buvat I, DiCarli M, Graham MM, Grimm J, Hermann K, Kostakoglu L, Lewis JS, Mankoff DA, Peterson TE, Schelbert H, Schöder H, Siegel BA, Strauss HW. The Future of Nuclear Medicine, Molecular Imaging, and Theranostics. *Journal of Nuclear Medicine* 2020;61(S2):263S-272S DOI: 10.2967/jnumed.120.254532.

Book Chapters:

1. Peterson TE, Wilson DW, Barrett HH. High-resolution Multi-pinhole Imaging Using Silicon Detectors. *Small-Animal SPECT Imaging*, Ed. M.A. Kupinski and H.H. Barrett, NY, NY:Springer 2005:251-258.
2. Gore JC, Manning HC, Peterson TE, Quarles CC, Sinha TK, Yankeelov TE. Quantitative Imaging Biomarkers of Cancer. *Advances in Medical Physics*, Volume 3, Ed. A.B. Wolbarst, A. Karellas, E.A. Krupinski, and W.R. Hendee, Madison, WI:Med Phys Publishing 2010:89-112.

Editorials:

1. "New Biomedical Imaging Meeting." Peterson TE. *Journal of Nuclear Medicine* 2007; 48:20N.
2. "Innovation is Key to Building Membership." Peterson T. *Journal of Nuclear Medicine* 2010; 51:17N.
3. "SNM Membership Categories Expanded; New Award." Peterson T. *Journal of Nuclear Medicine* 2011; 52:23N.
4. "The Future is Bright for CMIIT." Peterson, T. *Molecular Imaging* 2013;12.
5. "Guidance for Reporting in Preclinical Imaging." Peterson T. *Journal of Nuclear Medicine* 2013;54:25N.

Published Conference Proceedings:

1. “A self-triggering silicon strip detector system for coincidence detection of low energy recoils”, Peterson T, Bilodeau D, Doskow J, Hunt W, Kinashi T, Klyachko A, Jacobs WW, Rinckel T, Vigdor SE, Yoder NR, Zhou Y. Presented at *1999 IEEE Nuclear Science Symposium & Medical Imaging Conference*, Seattle, WA, October 24-30, 1999, and published in *1999 IEEE Nuclear Science Symposium Conference Record* 1:298-301.
2. "Precise determination of the spin-transfer coefficient $K_{NN'}$ for *np* elastic scattering at 187 MeV", Wissink SW, Choi S, Franklin WA, Jacobs WW, Peterson T, Rinckel T, Sowinski J, Stephenson EJ, Wolanski M, Yang H. Presented at *The 15th Particles and Nuclei International Conference (PANIC99)*, Uppsala, Sweden, June 10-16, 1999, and published in *Nuclear Physics A* 663 & 664:537c-540c (2000).
3. "Development of a Tagged Neutron Facility for Neutron Scattering at Intermediate Energies", Peterson T, Bland LC, Blomgren J, Jacobs WW, Kinashi T, Klyachko A, Nadel-Turonski P, Nilsson L, Olsson N, Rapaport J, Rinckel T, Stephenson EJ, Vigdor SE, Wissink SW, Zhou Y. Presented at *The 15th Particles and Nuclei International Conference (PANIC99)*, Uppsala, Sweden, June 10-16, 1999, and published in *Nuclear Physics A* 663 & 664:1057c-1060c (2000).
4. "Tagged Neutron Production with a Storage Ring", T Peterson for the TNT Collaboration. Presented at *4th International Conference on Nuclear Physics at Storage Rings (Stori99)*, Bloomington, IN, September 12-16, 1999, and published in AIP Conference Proceedings of 512, eds. H.-O. Meyer and P. Schwandt, 235 (2000).
5. "Production of 64x64 Hybrid Semiconductor Arrays for Biomedical Applications", Barber HB, Hunter WCJ, Peterson TE, Parker BH, Woolfenden JM. Presented at *2001 IEEE Nuclear Science Symposium & Medical Imaging Conference*, San Diego, CA, November 3-10, 2001, and published in *2001 IEEE Nuclear Science Symposium Conference Record* 2:1045-1049.
6. "A Small-animal Imaging System Based on Silicon Strip Detectors", Peterson TE, Wilson DW, Barrett HH. Presented at *2002 IEEE International Symposium on Biomedical Imaging*, Washington, DC, July 7-10, 2002, and published in *Proceedings of 2002 IEEE International Symposium on Biomedical Imaging*: 533-536.
7. "Compact CT/SPECT small-animal imaging system", Kastis GA, Furenlid LR, Wilson DW, Peterson TE, Barber HB, Barrett HH. Presented at *2002 IEEE Nuclear Science Symposium & Medical Imaging Conference*, Norfolk, VA, November 12-16, 2002, and published in *2002 IEEE Nuclear Science Symposium Conference Record* 2:797-801.
8. "SemiSPECT: A Small-animal Imaging System Based on Eight CdZnTe Pixel Detectors", Peterson TE, Kim H, Crawford MJ, Gershman BM, Hunter WCJ, Barber HB, Furenlid LR, Wilson DW, Woolfenden JM, Barrett HH. Presented at *2002 IEEE Nuclear Science Symposium & Medical Imaging Conference*, Norfolk, VA, November 12-16, 2002, and published in *2002 IEEE Nuclear Science Symposium Conference Record* 3:1844-1847.
9. “Evaluating estimation techniques in medical imaging without a gold standard: experimental validation”, Hoppin JW, Wilson DW, Peterson TE, Kupinski MA, Kastis GA, Clarkson E, Furenlid LR, Barrett HH. Presented at *SPIE Conference on Medical Imaging*, San Diego, CA, February 15-20, 2003, and published in *Proceedings of SPIE: Medical Imaging 2003: Image Perception, Observer Performance, and Technology Assessment* 5034:230-237.
10. "Optimizing a multiple-pinhole SPECT system using the ideal observer," Gross K, Kupinski MA, Peterson T, Clarkson E. Presented at *SPIE Conference on Medical Imaging*, San Diego, CA, February

15-20, 2003, and published in *Proceedings of SPIE: Medical Imaging 2003: Image Perception, Observer Performance, and Technology Assessment* 5034:314-322.

11. "Ultrahigh-resolution Small-animal Imaging Using a Silicon Detector", Peterson TE, Wilson DW, Barrett HH. Presented at *2003 IEEE Nuclear Science Symposium & Medical Imaging Conference*, Portland, OR, October 19-25, 2003, and published in *2003 IEEE Nuclear Science Symposium Conference Record* 3:1984-1987.
12. "A Prototype Low-energy, Multi-pinhole SPECT System for Small-animal Imaging", Peterson TE, Wilson DW, Barrett HH. Presented at *2004 IEEE Nuclear Science Symposium & Medical Imaging Conference*, Rome, Italy, October 16-22, 2004, and published in *2004 IEEE Nuclear Science Symposium Conference Record* 5:2999-3002.
13. "Multi-pinhole SPECT imaging with silicon strip detectors", Peterson TE, Shokouhi S, Furenlid LR, Wilson DW. Presented at *2005 IEEE Nuclear Science Symposium & Medical Imaging Conference*, San Juan, PR, October 23-29, 2005, and published in *2005 IEEE Nuclear Science Symposium Conference Record* 5:2752-2756.
14. "Automatic registration of whole body serial micro CT images with a combination of point-based and intensity-based registration techniques", Li X, Peterson TE, Gore JC, Dawant BM. Presented at *3rd IEEE International Symposium on Biomedical Imaging: Nano to Macro*, Arlington, VA, April 6-9, 2006, and published in *Proceedings of the 3rd IEEE International Symposium on Biomedical Imaging*: 454 – 457.
15. "Multi-Energy, Single-Isotope Pinhole Imaging Using Stacked Detectors", McDonald BS, Shokouhi S, Barrett HH, Peterson TE. Presented at *2006 IEEE Nuclear Science Symposium & Medical Imaging Conference*, San Diego, CA, October 29 - November 4, 2006 and published in *2006 IEEE Nuclear Science Symposium Conference Record* 3:1797-1801.
16. "Thick Silicon Strip Detectors for Small-Animal SPECT Imaging", Shokouhi S, Durko HL, Fritz MA, Furenlid LR, Peterson TE. Presented at *2006 IEEE Nuclear Science Symposium & Medical Imaging Conference*, San Diego, CA, October 29 - November 4, 2006 and published in *2006 IEEE Nuclear Science Symposium Conference Record* 6:3562-3566.
17. "Design of a Multi-Pinhole Collimator in a Dual-Headed, Stationary, Small-Animal SPECT", Shokouhi S, Fritz MA, McDonald BS, Wilson DW, Metzler SD, Peterson TE. Presented at *2006 IEEE Nuclear Science Symposium & Medical Imaging Conference*, San Diego, CA, October 29 - November 4, 2006 and published in *2006 IEEE Nuclear Science Symposium Conference Record* 4:2399-2402.
18. "Ensemble Learning (EL) Independent Component Analysis (ICA) Approach to Derive Blood Input Function from FDG-PET Images in Small Animal", Fu Z, Tantawy MN, Peterson TE. Presented at *2006 IEEE Nuclear Science Symposium & Medical Imaging Conference*, San Diego, CA, October 29 - November 4, 2006 and published in *2006 IEEE Nuclear Science Symposium Conference Record* 5:2708-2712.
19. "System evaluation for in vivo imaging of amyloid beta plaques in a mouse brain using statistical decision theory", Shokouhi S, Wilson DW, Pham W, Peterson TE. Presented at *2007 IEEE Nuclear Science Symposium & Medical Imaging Conference*, Honolulu, HI, October 28 - November 3, 2007, and published in *2007 IEEE Nuclear Science Symposium Conference Record* 6:4528-4530.
20. "Performance characteristics of thick silicon double sided strip detectors", Shokouhi S, McDonald BS, Durko HL, Fritz MA, Furenlid LR, Peterson TE. Presented at *2007 IEEE Nuclear Science Symposium & Medical Imaging Conference*, Honolulu, HI, October 28 - November 3, 2007, and published in *2007 IEEE Nuclear Science Symposium Conference Record* 2:1656-1660.
21. "A silicon SPECT system for molecular imaging of the mouse brain", Shokouhi S, Fritz MA,

McDonald BS, Durko HL, Furenlid LR, Wilson DW, Peterson TE. Presented at *2007 IEEE Nuclear Science Symposium & Medical Imaging Conference*, Honolulu, HI, October 28 - November 3, 2007, and published in *2007 IEEE Nuclear Science Symposium Conference Record* 4:2782-2784.

22. "Data-processing strategies for crossed-strip gamma-ray detectors", Durko HL, McDonald BS, Shokouhi S, Furenlid LR, Barrett HH, Peterson TE. Presented at *2008 IEEE Nuclear Science Symposium & Medical Imaging Conference*, Dresden, Germany, October 19-25, 2008, and published in *2008 IEEE Nuclear Science Symposium Conference Record* :4091-4094.
23. "Imaging performance measurements of SiliSPECT", McDonald BS, Shokouhi S, Peterson TE. Presented at *2009 IEEE Nuclear Science Symposium & Medical Imaging Conference*, Orlando, FL, October 25-31, 2009, and published in *2009 IEEE Nuclear Science Symposium Conference Record*:3155-3158.
24. "Advancing nuclear breast imaging with the use of high-purity germanium detectors", Campbell DL, Peterson TE. Presented at *2010 IEEE Nuclear Science Symposium & Medical Imaging Conference*, Knoxville, TN, October 30 - November 6, 2010, and published in *2010 IEEE Nuclear Science Symposium Conference Record*:3025-3028.
25. "High-resolution, anamorphic, adaptive small-animal SPECT imaging with silicon double-sided strip detectors", Durko HL, Peterson TE, Barrett HH, Furenlid LR. Presented at SPIE Conference on Medical Applications of Radiation Detectors, San Diego, CA, August 24, 2011, and published in *Proceedings of SPIE: Medical Applicatons of Radiation Detectors* 8143, 81430G (2011).
26. "Performance characterization of high-purity germanium detector for small-animal SPECT imaging", Johnson LC, Campbell DL, Peterson TE. Presented at *2011 IEEE Nuclear Science Symposium & Medical Imaging Conference*, Valencia, Spain, October 23-29, 2011, and published in *2011 IEEE Nuclear Science Symposium Conference Record:*607-612.
27. "Radiation dose-based comparison of PET and SPECT for preclinical bone imaging", Johnson LC, Johnson RW, Sterling JA, Stabin MG, Peterson TE. Presented at *2011 IEEE Nuclear Science Symposium & Medical Imaging Conference*, Valencia, Spain, October 23-29, 2011, and published in *2011 IEEE Nuclear Science Symposium Conference Record:*2845-2850.
28. "Evaluating collimation schemes for nuclear breast imaging with high-purity germanium detectors", Campbell DL, Peterson TE. Presented at *2011 IEEE Nuclear Science Symposium & Medical Imaging Conference*, Valencia, Spain, October 23-29, 2011, and published in *2011 IEEE Nuclear Science Symposium Conference Record:*2743-2748.
29. "Characterization of a small-animal high-purity germanium SPECT system", Johnson LC, Ovchinnikov OS, Shokouhi S, Peterson TE. Presented at *2012 IEEE Nuclear Science Symposium & Medical Imaging Conference,* Anaheim, CA, October 29-November 3, 2012, and published in *2012 IEEE Nuclear Science Symposium Conference Record:*2185-2190.
30. "Simulation of the effects of multiplexing in multi-pinhole SPECT using stacked Si-HPGe detectors", Johnson LC, Shokouhi S, Peterson TE. Presented at *2012 IEEE Nuclear Science Symposium & Medical Imaging Conference,* Anaheim, CA, October 29-November 3, 2012, and published in *2012 IEEE Nuclear Science Symposium Conference Record:*2569-2575.
31. "Simulations investigating the impact of depth-of-interaction in nuclear breast imaging with a dedicated germanium gamma camera", Campbell DL, Peterson TE. Presented at *2012 IEEE Nuclear Science Symposium & Medical Imaging Conference,* Anaheim, CA, October 29-November 3, 2012, and published in *2012 IEEE Nuclear Science Symposium Conference Record:*2718-2722.

32. "High energy gamma-ray imaging using Cherenkov cone detection – a Monte Carlo study with application to a Compton camera system", Peterson TE, Brill AB, Walenta AH. Presented at *2012 IEEE Nuclear Science Symposium & Medical Imaging Conference,* Anaheim, CA, October 29-November 3, 2012, and published in *2012 IEEE Nuclear Science Symposium Conference Record:*3246-3253.

33. "Evaluation of a compact, general-purpose Germanium Gamma Camera", Campbell DL, Hull EL, Peterson TE. Presented at *2013 IEEE Nuclear Science Symposium & Medical Imaging Conference,* Seoul, Korea, October 27-November 6, 2013, and published in *2013 IEEE Nuclear Science Symposium Conference Record:*1-6.

34. "Using the Wiener estimator to determine optimal imaging parameters in a synthetic-collimator SPECT system used for small animal imaging", Lin A, Johnson LC, Shokouhi S, Peterson TE, Kupinski MA. Presented at *SPIE Conference on Medical Imaging*, Orlando, FL, February 25-26, 2015, and published in *Proceedings of SPIE: Medical Imaging 2015: Image Perception, Observer Performance, and Technology Assessment* 9416.

35. "GamSim – a Windows Based Simulation Tool for Gamma-Ray Detector Development", Walenta AH, Brill AB, Conka-Nurdan T, Fleck I, Furenlid LR, Peterson TE. Presented at *2016 IEEE Nuclear Science Symposium & Medical Imaging Conference*, Strasbourg, France, October 29-November 5, 2016 and published in *2016 IEEE Nuclear Science Symposium Conference Record*.

36. "Mapping the Response of a Double-Sided Strip High-Purity Germanium Detector", Perea RS, Furenlid LR, Shokouhi S, Peterson TE. Presented at *2017 IEEE Nuclear Science Symposium & Medical Imaging Conference,* Atlanta, GA, October 21-28, 2017 and published in *2017 IEEE Nuclear Science Symposium Conference Record*.

37. "Gamma-Ray Imaging Using Cherenkov Cone Detection from Energetic Compton Electrons", Beyerlein, R, Fleck I, Peterson TE, Bäcker H. Presented at *2019 IEEE Nuclear Science Symposium & Medical Imaging Conference*, Manchester, England, October 26-November 2, 2019 and published in *2019 IEEE Nuclear Science Symposium Conference Record*.

Abstracts and Conference Presentations:

1. "Determination of Pion-Pion Scattering Lengths from Pionium Decay." Vigdor SE, Betker AC, Cameron JM, Jacobs WW, Keith CD, Nann H, Peterson T, Shao J, Spraker M, Szymanski JJ, Warman LK, Pitts WK. Presented at *APS Division of Nuclear Physics Meeting,* Bloomington, IN, October 25-28, 1995, and published in *Bulletin of the American Physical Society* 40, 1628 (1995).
2. "Status of the IUCF Pionium Search." Betker AC, Cameron JM, Jacobs WW, Keith CD, Nann H, Peterson T, Shao J, Spraker M, Szymanski JJ, Vigdor SE, Warman LK, Pitts WK. Presented at *APS Division of Nuclear Physics Meeting*, Bloomington, IN, October 25-28, 1995, and published in *Bulletin of the American Physical Society* 40, 1628 (1995).
3. "Precision Measurement of the Spin-transfer Coefficient, $K_{NN'}$, for *np* scattering at 190 MeV", Wolanski M, Black TC, Choi S, Jacobs WW, Peterson T, Rinckel T, Sowinski J, Stephenson EJ, Wissink SW, Yang H. Presented at the *1998 Joint Meeting of the American Physical Society and American Association of Physics Teachers*, Columbus, OH, April 18-21, 1998 and published in *Bulletin of the American Physical Society* 43, 1228 (1998).
4. "Precise determination of the spin-transfer coefficient $K_{NN'}$ for np elastic scattering at 187 MeV",

Wissink SW, Choi S, Franklin WA, Jacobs WW, Peterson T, Sowinski J, Stephenson EJ, Wolanski M, Yang H. Presented at *APS Division of Nuclear Physics Meeting,* Pacific Grove, CA, October 20-23, 1999, and published in *Bulletin of the American Physical Society* 44, 72 (1999).

5. "Development of a Tagged Neutron Facility", Peterson T, Allgower C, Bland LC, Doskow J, Jacobs WW, Kinashi T, Klyachko AV, Rinckel T, Stephenson EJ, Vigdor SE, Wissink SW, Zhou Y, Rapaport J, Bergenwall B, Blomgren J, Johansson C, Klug J, Nadel-Turonski P, Nilsson L, Olsson N. Presented at *April Meeting of the American Physical Society*, Long Beach, CA, April 29-May 2, 2000, and published in *Bulletin of the American Physical Society* 45, 76 (2000).
6. "Application of silicon strip detectors to small-animal imaging", Peterson TE, Wilson DW, Barrett HH. Presented at the *10th Symposium on Radiation Measurements and Applications*, Ann Arbor, MI, May 21-23, 2002.
7. "Dual Modality CT/SPECT System for imaging mice", Kastis GA, Furenlid LR, Wilson DW, Peterson TE, Barber HB, Barrett HH. Presented at *2002 Academy of Molecular Imaging Conference*, San Diego, CA, October 23-27, 2002, and published in *Molecular Imaging and Biology* 4(3), S22 (2002).
8. "An Ultra-high Resolution Small Animal Nuclear Imaging System", Peterson TE, Wilson DW, Barrett HH. Presented at *2003 Academy of Molecular Imaging Conference*, Madrid, Spain, September 21-27, 2003, and published in *Molecular Imaging and Biology* 5(3), 145 (2003).
9. "High-resolution Multi-pinhole Imaging Using Silicon Detectors", Peterson TE, Wilson DW, Barrett HH. Presented at *The 1st Workshop on Small-Animal SPECT*, Tucson, AZ, January 14-16, 2004.
10. "Voxel-based mouse and rat models for internal dose calculations", Stabin MG, Peterson TE, Holburn GE, Emmons MA. Presented at the *Society of Nuclear Medicine's 51st Annual Meeting*, Philadelphia, PA, June 19-23, 2004, and published in *Journal of Nuclear Medicine* 45(5):57P, 2004.
11. "Multimodality Imaging of Spontaneous Liver Tumors in Transgenic Mice", Deane NG, Foutch C, Peterson TE, Does MD, Beauchamp RD, Price RR, *The Third Annual Meeting of the Society of Molecular Imaging*, St. Louis, MO, USA, September 2004.
12. "Pinhole imaging of x-ray emissions from iodine-123 using a silicon detector", Heath CC, Peterson TE. Presented at *2004 IEEE Nuclear Science Symposium & Medical Imaging Conference*, Rome, Italy, October 16-22, 2004.
13. "High-resolution Single Photon Emission Computed Tomography at Low Energies using a Silicon Detector with Multiple-pinhole Collimation", Peterson TE, Heath CC, Wilson DW, Barrett HH. Presented at the *2005 Annual Conference of the Academy of Molecular Imaging*, Orlando, FL, March 18-23, 2005, and published in *Molecular Imaging and Biology* 7(2), 107 (2005). (**Top Basic Science Abstract Award Winner.**)
14. "Performance evaluation of a small-animal SPECT system using an improved type of silicon double-sided strip detector", Shokouhi S, Furenlid LR, Wilson DW, Peterson TE. Presented at *The 2nd Biennial Workshop on Small-Animal SPECT Imaging*, Tucson, AZ, March 8-10, 2006.
15. "Multi-energy, single isotope imaging", McDonald BS, Shokouhi S, Peterson TE. Presented at *The 2nd Biennial Workshop on Small-Animal SPECT Imaging*, Tucson, AZ, March 8-10, 2006.
16. "Multi-energy, single-isotope imaging using stacked detectors", McDonald BS, Shokouhi S, Barrett HH, Peterson TE. Presented at the *11th Symposium on Radiation Measurements and Applications*, Ann Arbor, MI, May 23-26, 2006.
17. "Optimization of multi-pinhole collimators in small-animal 125I SPECT with high-resolution silicon double-sided strip detectors (DSSD)", Shokouhi S, Peterson T. Presented at the *Society of Nuclear*

Medicine's 53rd Annual Meeting, San Diego, CA, June 3-7, 2006, and published in *Journal of Nuclear Medicine* 47: 402P, 2006.

18. "Feasibility of determining [18F]Fallypride binding potential with delayed scans", Tantawy M, Peterson T, Jones C, Baldwin R, Ansari MS, Kessler R. Presented at the *Society of Nuclear Medicine's 54th Annual Meeting*, Washington, DC, June 2-6, 2007, and published in *Journal of Nuclear Medicine* 48: 97P, 2007.
19. "Study of a new high-resolution silicon double-sided strip detector (DSSD) for low-energy small-animal SPECT", Shokouhi S, Durko H, Fritz M, Furenlid L, Peterson T. Presented at the *Society of Nuclear Medicine's 54th Annual Meeting*, Washington, DC, June 2-6, 2007, and published in *Journal of Nuclear Medicine* 48: 94P, 2007.
20. "Rat brain PET imaging using a dual rat bed", Tantawy M, Peterson T, Kessler R. Presented at the *Society of Nuclear Medicine's 54th Annual Meeting*, Washington, DC, June 2-6, 2007, and published in *Journal of Nuclear Medicine* 48: 441P, 2007.
21. "Reconstructing multiplexed SPECT data from stacked detectors", McDonald BS, Shokouhi S, Peterson TE. Presented at *Joint Molecular Imaging Conference*, Providence, RI, September 8-11, 2007.
22. "Monte Carlo simulations for design optimization of a Compton camera imager for dosimetry in radionuclide therapy", Jackson H, Brill AB, Nurdan K, Peterson TE. Presented at *2007 IEEE Nuclear Science Symposium & Medical Imaging Conference*, Honolulu, HI, October 27 - November 3, 2007.
23. **"**Radiation guided peptide targeting to tumor microvasculature using nanoparticle carriers", Hariri G, Croce T, Harth E, Han Z, Tantawy N, Peterson T, Baldwin R, Hallahan D. Presented at *49th Annual Meeting of the American Society for Therapeutic Radiology and Oncology*, Los Angeles, CA, October 28-November 1, and published in *International. Journal of Radiation Oncology*Biology*Physics* 69(3): S151, 2007.
24. "Characterization of thick silicon detectors for low-energy, small-animal SPECT", McDonald BS, Shokouhi S, Wilson DW, Peterson TE. Presented at *The 3rd Biennial Workshop on Small-Animal SPECT*, Tucson, AZ, January 16-18, 2008.
25. "Determination of amyloid beta plaque statistics using mathematical object models", Shokouhi S, Wilson D, Peterson TE. Presented at the *Society of Nuclear Medicine's 55th Annual Meeting*, New Orlean, LA, June 14-18, 2008, and published in *Journal of Nuclear Medicine* 49: 377P, 2008.
26. "Effects of isoflurane anesthesia on [18F]fallypride binding potential", Tantawy MN, Peterson TE, Jones C, Baldwin RM, Ansari M, Kessler RM. Presented at the *Society of Nuclear Medicine's 55th Annual Meeting*, New Orlean, LA, June 14-18, 2008, and published in *Journal of Nuclear Medicine* 49: 207P, 2008.
27. "A low-energy SPECT system based on silicon strip detectors", Peterson TE, McDonald BS, Shokouhi S, Wilson DW. Presented at *2008 IEEE Nuclear Science Symposium & Medical Imaging Conference*, Dresden, Germany, October 19-25, 2008.
28. "Theoretical studies on plaque burden estimation in Alzheimer's mouse model using SiliSPECT", Shokouhi S, Kupinski MA, Wilson DW, Peterson TE. Presented at *2008 IEEE Nuclear Science Symposium & Medical Imaging Conference*, Dresden, Germany, October 19-25, 2008.
29. "Molecular imaging of therapeutic response to EGF receptor blockade in colorectal cancer", Manning HC, Merchant N, Shah C, McKinley E, Mutic N, Washington K, Peterson T, Rothenberg M, Gore J, Coffey R. Presented at the *Society of Nuclear Medicine's 56th Annual Meeting*, Toronto, Canada, June 13-17, 2009, and published in *Journal of Nuclear Medicine* 50: 1017S, 2009.

30. "Characterization of [18F]FPEB uptake in rats", Tantawy MN, Peterson TE, Rook JM, Baldwin R, Ansari MS, Kessler RM. Presented at the *Society of Nuclear Medicine's 56th Annual Meeting*, Toronto, Canada, June 13-17, 2009, and published in *Journal of Nuclear Medicine* 50: 1187S, 2009.
31. "System modeling and image reconstruction for SiliSPECT using synthetic collimation with a large number of focusing apertures", Shokouhi S, Wilson DW, Metzler SD, McDonald BS, Peterson TE. Presented at *2009 IEEE Nuclear Science Symposium & Medical Imaging Conference*, Orlando, FL, October 25-31, 2009.
32. "Noninvasive in vivo imaging of MMP-7 activity", Soebbing S, Tantawy MN, Baldwin RM, Peterson TE, Matrisian LM, McIntyre JO. Presented at *International Symposium on Technetium and Other Radiometals in Chemistry and Medicine*, Bressanone, Italy, September 8-11, and published in *Nuclear Medicine and Biology* 2010;37(6):708.
33. "The serial assessment of tumor angiogenesis and hypoxia using multiparametric and multimodal imaging", Quarles C, Yankeelov T, Peterson T, Xu L, Gore J. Presented at *SNM 2010 Annual Meeting*, Salt Lake City, UT, June 5-9, 2010, and published in *Journal of Nuclear Medicine* 51:233S, 2010.
34. "Preclinical evaluation of TSPO ligand [18F]PBR06 for PET imaging of glioma", Buck J, McKinley E, Hight M, Guleryuz S, Zhao P, Fu A, Peterson T, Tantawy M, Tang D, Manning HC. Presented at *SNM 2010 Annual Meeting*, Salt Lake City, UT, June 5-9, 2010, and published in *Journal of Nuclear Medicine* 51: 279S, 2010.
35. "Thymidine salvage to reflect tumor cell proliferation: Implications for ^{18}F-FLT PET as a biomarker in oncology", McKinley E, Guleryuz S, Zhao P, Fu A, Mutic N, Tantawy M, Peterson T, Gore J, Coffey R, Manning HC. Presented at *SNM 2010 Annual Meeting*, Salt Lake City, UT, June 5-9, 2010, and published in *Journal of Nuclear Medicine* 51:446S, 2010.
36. "Performance characteristics of a Ge gamma camera", Peterson T, Hull E. Presented at *SNM 2010 Annual Meeting*, Salt Lake City, UT, June 5-9, 2010, and published in *Journal of Nuclear Medicine* 51:1400S, 2010.
37. "A radiation dose-based comparison of PET and SPECT for preclinical bone imaging", Johnson LC, Johnson RW, Sterling JA, Stabin MG, Peterson TE. Presented at *The 4th Biennial Workshop on Small-Animal SPECT*, Tucson, AZ, December 8-10, 2010.
38. "Fully depleted high resistivity silicon detectors for Compton camera applications", Walenta AH, Brill A, Chevallier M, Conka-Nurdan T, Constanzo J, Dauvergne D, Freud N, Henriquet P, Le Foulher F, Jackson H, Letang JM, Montarou G, Nurdan K, Peterson TE, Ray C, Roellinghoff F, Richard, M-H, Testa E, Testa M. Presented at *The 4th Biennial Workshop on Small-Animal SPECT*, Tucson, AZ, December 8-10, 2010.
39. "Performance testing of a high-purity germanium gamma camera for small-animal SPECT", Campbell DL, Johnson LC, Peterson TE. Presented at *The 4th Biennial Workshop on Small-Animal SPECT*, Tucson, AZ, December 8-10, 2010.
40. "Evaluation of v_e in a rat glioma model with DCE-MRI & quantitative SPECT", Skinner JT, Loveless ME, Peterson TE, Yankeelov TE, Does MD. Presented at the *19th Annual Meeting of ISMRM*, Montreal, Canada, May 7-13, 2011; 2048.
41. "Using DCE-MRI data to constrain & simplify PET kinetic modeling", Fluckiger JU, Li X, Whisenant J, Xu L, Xu J, Peterson TE, Gore JC, Yankeelov T. Presented at the *19th Annual Meeting of ISMRM*, Montreal, Canada, May 7-13, 2011; 1071.
42. "Repeatability of 18F-FDG, 18F-FLT, and 18F-FMISO microPET in a murine model of HER2+ breast cancer", Whisenant J, Xu L, Peterson T, Gore J, Yankeelov T. Presented at *SNM 2011 Annual*

Meeting, San Antonio, TX, June 4-8, 2011, and published in *Journal of Nuclear Medicine* 52: 1698, 2011.

43. "Calibration and image reconstruction techniques dedicated to ultra-high resolution SiliSPECT", Shokouhi S, McDonald B, Metzler S, Peterson T. Presented at *SNM 2011 Annual Meeting*, San Antonio, TX, June 4-8, 2011, and published in *Journal of Nuclear Medicine* 52: 2003, 2011.
44. "[18F]VUIIS-1008: A novel, selectively irreversible TSPO PET ligand for cancer imaging", Tantawy M, Tang D, Nickels M, Peterson T, Manning HC. Presented at *SNM 2012 Annual Meeting*, Miami, FL, June 9-13, 2012, and published in *Journal of Nuclear Medicine* 53 (Supplement 1): 521, 2012.
45. "Evaluation of [18F]-(4-fluorophenyl)(2-methyl-3-((4-methylthiazol-2-yl)methyl)azulen-1-yl)methanone as a COX-2 selective PET imaging agent", Pham W, Nolting D, Simpson N, Tantawy M, Peterson T, Gore J, Majo V, Prabhakaran J, Mann JJ, Dileep Kumar JS. Presented at *SNMMI 2013 Annual Meeting*, Vancouver, Canada, June 8-12, 2013, and published in *Journal of Nuclear Medicine* 54 (Supplement 2): 1141, 2013.
46. "Limited-angle tomographic nuclear breast imaging with a germanium detector", Campbell D, Peterson T. Presented at *SNMMI 2013 Annual Meeting*, Vancouver, Canada, June 8-12, 2013, and published in *Journal of Nuclear Medicine* 54 (Supplement 2): 2168, 2013.
47. "A novel approach to breast cancer diagnosis via PET imaging of microcalcifications using 18F-NaF", Tantawy M, Wilson G, Peterson T, Barnes S, Whisenant J, True J, Colvin D, Nickels M, Yankeelov T, Gore J. Presented at *SNMMI 2013 Annual Meeting*, Vancouver, Canada, June 8-12, 2013, and published in *Journal of Nuclear Medicine* 54 (Supplement 2): 449, 2013.
48. "Development of a small-animal high-purity germanium SPECT-CT system", Johnson L, Ovchinnikov O, Shokouhi S, Peterson T. Presented at *SNMMI 2013 Annual Meeting*, Vancouver, Canada, June 8-12, 2013, and published in *Journal of Nuclear Medicine* 54 (Supplement 2): 598, 2013.
49. "In vivo preclinical molecular imaging in therapeutic drug development", Peterson TE. Presented at DIA 2013 49th Annual Meeting: Advancing Therapeutic Innovation and Regulatory Science, Boston, MA, June 23-27, 2013.
50. "Effective gap width and implications for position estimation in germanium strip detectors", Perea RS, Ovchinnikov O, Peterson TE. Presented at *2014 IEEE Nuclear Science Symposium & Medical Imaging Conference,* Seattle, WA, November 9-15, 2014.
51. "A dual-head germanium imaging system for limited-angle tomographic breast imaging", Desmond Campbell and Todd Peterson. Presented at *SNMMI 2015 Annual Meeting*, Baltimore, MD, June 6-10, 2015, and published in *Journal of Nuclear Medicine* 56 (Supplement 3): 47, 2015.
52. "Quantitative Small-Animal SPECT Without Scatter Correction Using High-Purity Germanium Detectors", Gearhart A, Peterson T, Johnson L. Presented at AAPM Annual Meeting, Anaheim, CA, July 12-16, 2015, and published in *Medical Physics* 42: 3202, 2015.
53. "Double-sided-strip high-purity germanium detectors for small-animal SPECT", Perea RS, Campbell DL, Gearhart A, Shokouhi S, Peterson TE. Presented at 6th Small-Animal Imaging Workshop: SPECT, PET, and Related Modalities, Tucson, AZ, January 10-13, 2016.
54. "Survey of Publication Costs in the Vanderbilt Department of Radiology", Cogswell PM, Omary RA, Stabin MG, Peterson TE. Presented at Association of University Radiologists 64th Annual Meeting, San Diego, CA, March 29-April 1, 2016.
55. "Spatial Response of Double-sided Strip High-purity Germanium Detectors for SPECT Imaging", Perea RS, Campbell DL, Shokouhi S, Peterson TE. Presented at *2016 IEEE Nuclear Science Symposium & Medical Imaging Conference*, Strasbourg, France, October 29-November 5, 2016.

56. "Translocator Protein PET Imaging in a Preclinical Prostate Cancer Model", Tantawy M, Manning HC, Peterson T, Colvin D, Chen Z, Gore J, Quarles C. Presented at SNMMI 2017 Annual Meeting, Denver, CO, June 10-14, and published in *Journal of Nuclear Medicine* 58 (Supplement 1): 60, 2017.
57. "Benefit of Scatter Rejection in Preclinical SPECT Using HPGe Detectors", Peterson TE, Gearhart A, Butler J, Johnson LC, Shokouhi S. Presented at 2017 World Molecular Imaging Congress, Philadelphia, PA, September 13-16, 2017.
58. "An Efficient Method for Ellipse Reconstruction Using Hough Transform for Cherenkov Cone Detection", Walenta AH, Beyerlein R, Brill AB, Fleck I, Furenlid LR, Khalid W, Peterson TE. Presented at *2017 IEEE Nuclear Science Symposium & Medical Imaging Conference,* Atlanta, GA, October 21-28, 2017.
59. "Design considerations for an HPGe-based brain SPECT", Peterson TE, Hull EL, Perea RS, Tantawy MN. Presented at SNMMI 2018 Annual Meeting, Philadelphia, PA, June 23-26, and published in *Journal of Nuclear Medicine* 59 (Supplement 1): 1770, 2018.
60. "Experimental Investigation of Cherenkov Cone Detection for High-Energy Gamma-Ray Imaging", Bayerlein R, Brill AB, Fleck I, Furenlid LR, Khalid W, Peterson TE, Walenta AH. Presented at *2018 IEEE Nuclear Science Symposium & Medical Imaging Conference,* Sydney, Australia, November 10-17, 2018.
61. "Maximum-Likelihood Event Positioning for a Double-Sided Strip Germanium Detector", Perea RS, Furenlid LR, Peterson TE. Presented at *2018 IEEE Nuclear Science Symposium & Medical Imaging Conference,* Sydney, Australia, November 10-17, 2018.
62. "First-in-human PET imaging study using [68Ga]-Folate tracer, [68Ga]EC2115", Cohen A, Douglas K, Roller L, Fisher A, Peterson T, Liu F, Nickels M, Smith G, Blackwell T, Manning HC. Presented at SNMMI 2019 Annual Meeting, Anaheim, CA, June 22-25, and published in *Journal of Nuclear Medicine* 60 (Supplement 1): 1062, 2019.
63. "A Cherenkov based electron detector for gamma ray imaging in medicine – a simulation study", Bayerlein R, Fleck I, Peterson TE, Bäcker H, Denker S. Presented at *2020 IEEE Nuclear Science Symposium & Medical Imaging Conference,* Boston, MA, October 31 – November 7, 2020.
64. "Gamma-ray imaging using coincident detection of Cherenkov photons from Compton electrons", Bayerlein R, Fleck I, Peterson TE, Bäcker H. Presented at *2020 IEEE Nuclear Science Symposium & Medical Imaging Conference,* Boston, MA, October 31 – November 7, 2020.
65. "Toward multi-tracer brain SPECT with HPGe detectors", Peterson TE and Hull EL. Presented at *2020 IEEE Nuclear Science Symposium & Medical Imaging Conference,* Boston, MA, October 31 – November 7, 2020.

Invited Conference Presentations:

1. "The CIS/Cooler Tagged Neutron Beam: Its Properties & Possibilities", Workshop on Few-Nucleon Physics with Stored, Cooled Beams, Bloomington, IN September 1998.
2. "Impact on the πNN Coupling Constant of the IUCF Measurement with a Tagged Neutron Beam", Workshop on Critical Points in the Determination of the Pion-Nucleon Coupling Constant, Uppsala, Sweden, June 1999.
3. "Tagged Neutron Production with a Storage Ring", 4th International Conference on Nuclear Physics at Storage Rings (Stori99), Bloomington, IN, September 1999.

4. "Advances in SPECT and μSPECT imaging", Frontiers of Biomedical Imaging Science, Nashville, TN, June 2007.
5. "Preclinical models and regulatory aspects in USA", presentation as part of round-table discussion, "Preclinical, models, clinical models, regulatory aspects", 1st Symposium on Internal Dosimetry applied to Nuclear Medicine (DOSIMN 2008), Recife, Brazil, April 2008.
6. "MicroPET, microSPECT, MicroCT methods", 1st Symposium on Internal Dosimetry applied to Nuclear Medicine (DOSIMN 2008), Recife, Brazil, April 2008.
7. "What will it mean to you? Molecular imaging instrumentation and clinical applications", Western Regional Society of Nuclear Medicine, Anaheim, CA, October 2010.
8. "Imaging Detectors", First Mini-Workshop on Astro-Materials, Vanderbilt University, Nashville, TN, November 2013.
9. "Applications of Semiconductor Detectors in Nuclear Medicine", Southeastern Chapter Society of Nuclear Medicine and Molecular Imaging, Charleston, SC, October 2015.
10. "What's New in Nuc Med Instrumentation", AACR-SNMMI Joint Conference on State-of-the-Art Molecular Imaging in Cancer Biology and Therapy, San Diego, CA, February 2018.
11. "Trends & Opportunities in Nuclear Medicine Imaging", 2018 Symposium on Radiation Measurements and Applications (SORMA XVII), Ann Arbor, MI, June 2018.
12. "Tubes Be Gone! New Photodetector Technologies for PET", 10th Annual Nuclear Medicine Technologists of Tennessee Meeting, Murfreesboro, TN, March 2019.
13. "Molecular Imaging in Drug Development", NCI Chemical Biology Consortium Symposium, Nashville, TN, July 2019.

Invited Departmental Seminars:

1. "Absolute Measurement of the *np* Backscattering Cross Section Using Tagged Neutrons", University of Louisville, Louisville, KY, August 1997.
2. "Nucleon-Nucleon Interaction Studies at IUCF", Uppsala University, Sweden, February 1998.
3. "Semiconductor Detectors in Small-Animal Gamma-Ray Imaging", Vanderbilt University Institute of Imaging Science, Nashville, TN, January 2003.
4. "Semiconductor Detectors in Small-Animal Gamma-Ray Imaging", Department of Biomedical Engineering, Duke University, Durham, NC, February 2003.
5. "Semiconductor Detectors in Small-Animal Gamma-Ray Imaging", Department of Biomedical Engineering, University of California-Davis, Davis, CA, March 2003.
6. "Small-animal Nuclear Imaging with Semiconductor Detectors", Research Center for Electronics, Juelich, Germany, September 2003.
7. "High-resolution Nuclear Imaging Using Silicon Detectors", Department of Biomedical Engineering, departmental seminar, Vanderbilt University, Nashville, TN, February 2004.
8. "Progress in Small Animal Imaging", with John Gore and Thomas Yankeelov, GI SPORE Research Seminar, Vanderbilt Ingram Cancer Center, Nashville, TN, November 2004.
9. "A Brief History of and Introduction to Nuclear Medicine", Medical Physics Seminar, South Carolina State University, November 2005.

10. "Nuclear Medicine: Methods and Applications", Medical Physics Seminar, South Carolina State University, November 2006.
11. "Development of a High-resolution SPECT System with Silicon Strip Detectors", Department of Nuclear Engineering, University of Illinois, Champaign, IL, April 2009.
12. "Multi-pinhole SPECT with Semiconductor Detectors", Vanderbilt University Institute of Imaging Science, Vanderbilt University, October 2011.
13. "SPECT with Semiconductor Detectors", University of Manitoba, Winnipeg, Canada, October 2012.
14. "Germanium Detectors for Biomedical Imaging", Department of Radiology, The Ohio State University, Columbus, OH, April 2014.
15. "Germanium Detectors for Biomedical Imaging", Vanderbilt University Institute of Imaging Science, Vanderbilt University, April 2015.
16. "SPECT Imaging with Germanium Detectors", Department of Radiology, University of Pennsylvania, Philadelphia, PA, April 2016.
17. "Germanium Detectors for Biomedical Imaging", Committee on Medical Physics, University of Chicago, Chicago, IL, May 2018.
18. "VUIIS Resource Update: PET/CT", Vanderbilt Institute for Surgery and Engineering, January 2019.
19. "Investigating Cherenkov Photon Detection for High-energy Gamma-ray Imaging", Vanderbilt University Institute of Imaging Science, Vanderbilt University, January 2019.
20. "Molecular Imaging Resources for your Research", GI Research Program, Vanderbilt University Medical Center, October 2019.

Other Invited Presentations:

1. "Small-animal Imaging Opportunities at Vanderbilt University", Compton Camera Collaboration Meeting, Rome, Italy, March 2004.
2. "FOCUS on microPET", Molecular Imaging Initiative, Vanderbilt University Medical Center, Nashville, TN, April 2004.
3. "Getting to Know Your PET", Mouse and Molecular Imaging Series, Vanderbilt University Medical Center, Nashville, TN, February 2005.
4. "CT Basics", Mouse and Molecular Imaging Series, Vanderbilt University Medical Center, Nashville, TN, April 2005.
5. "Prospects for SPECT/MR in Small-Animal Imaging", New Frontiers of Science—DOE Fueling the Future of Nuclear Medicine Workshop, Boston, MA September 2007.
6. "microPET and microCT Imaging", Center for Small Animal Imaging Workshop, Vanderbilt University, Nashville, TN, October 2005.
7. "Future Directions in Preclinical Imaging: VUIIS Perspective", Siemens Preclinical Solutions Focus Group Meeting, Townsend, TN, May 2008.
8. "What is Molecular Imaging?", SNMTS National Council of Representatives, New Orleans, LA, June 2008.
9. "Small-animal PET & SPECT at VUIIS", Philips Medical Systems site visit, Vanderbilt University Medical Center, Nashville, TN, September 2008.

10. “SPECT Methods, Techniques, and Considerations”, Molecular Imaging Initiative, Vanderbilt University Medical Center, Nashville, TN, December 2008.
11. “Focusing on the small things: pushing the limits in preclinical nuclear imaging”, Sigma Pi Sigma Induction Ceremony, Gustavus Adolphus College, St. Peter, MN, April 2009.
12. “Small-Animal SPECT/CT System Based on Position-Sensitive Semiconductor Detectors”, DOE Radiochemistry and Radionuclide Imaging Instrumentation Program Investigators’ Workshop, Rockville, MD, January 2010.
13. “What is Molecular Imaging?”, Society of Nuclear Medicine headquarters, Reston, VA, January 2010.
14. “Preclinical Imaging at Vanderbilt University”, Bioscan, Inc., Washington, DC, February 2011.
15. “Small-Animal SPECT/CT System Based on Position-Sensitive Semiconductor Detectors”, DOE Radiochemistry and Radionuclide Imaging Instrumentation Program Investigators’ Workshop, Bethesda, MD, April 2011.
16. “Fundamentals of SPECT and PET”, NCI Cancer Research Imaging Camp, Nashville, TN, June 2012.
17. “Medical Imaging: Some history, a bit of technology, and a few examples”, Nashville Salon, Nashville, TN, October 2015.
18. “Imaging Research at Vanderbilt & Other Cherenkov Efforts”, Workshop on a Cherenkov Detector for Gamma Ray Imaging, Siegen, Germany, December 2015.